
ITS Projects in FY 1996

American Automotive Manufacturer's Association

Roadway RF Environment Measurements -
Perform measurements of the roadway RF environment in the vicinity of high-power transmitters.
Project Leader: Frank H. Sanders (303) 497-5727
e-mail fsanders@its.bldrdoc.gov

Department of Defense

Channel Modeling Support for Personal Communications Services - Assist in providing access to channel measurements for review, validating Dr. Bello's generic channel simulator models, and promulgating these personal communications services models in standards bodies.
Project Leader: Edmund A. Quincy (303) 497-5472
e-mail equincy@its.bldrdoc.gov

Standards Development for Asynchronous Transfer Mode - Assist the National Security Agency in developing standards for interfaces and operation of the global grid.
Project Leader: William J. Pomper (303) 497-3730
e-mail wpomper@its.bldrdoc.gov

Standards Development for Personal Communications Services - Present standards requirements from anticipated Federal users of wireless products and services, stressing incorporation of synchronous data services with STU-111 applications in the proposed TR41.6 unlicensed personal communications services standards.
Project Leader: Steven M. Davidson
e-mail sdavidson@its.bldrdoc.gov

Wireless Interoperability of Asynchronous Transfer Mode - Investigate current domestic and international standardization activities related to wireless asynchronous transfer mode applications. Develop a structured plan to satisfy the National Security Agency's security, performance, and interoperability needs.
Project Leader: Val J. Pietrasiewicz (303) 497-5132
e-mail vpietrasiewicz@its.bldrdoc.gov

Federal Aviation Administration

Analysis for the Radio Frequency Interference Monitoring Systems Program - Analyze require-

ments for and develop a custom radio spectrum measurement system. Integrate and test prototype mobile systems.

Project Leader: Patricia J. Longstaff (303) 497-3568
e-mail plongstaff@its.bldrdoc.gov

Federal Highway Administration

Electromagnetic Compatibility of the Intelligent Transportation System - Provide support to the intelligent transportation system program as it applies advanced technology for safety and throughput. Develop communication systems that will provide information to travelers, their vehicles, and the infrastructure. Support development of standards and identify spectrum issues as they relate to electromagnetic compatibility of intelligent transportation systems. Perform measurements of the highest electromagnetic fields and general background fields in the roadway environment from 30 MHz to 18 GHz in the San Diego, California area. Independently evaluate the performance of the AM subcarrier traveler information system.

Project Leaders: Robert J. Matheson (303) 497-3293, Nicholas DeMinco (303) 497-3660, Frank H. Sanders (303) 497-5727, and John J. Lemmon (303) 497-3414
e-mail matheson@its.bldrdoc.gov, ndeminco@its.bldrdoc.gov, fsanders@its.bldrdoc.gov, and jlemmon@its.bldrdoc.gov

Feasibility Study of Global Positioning System Augmentation for Intelligent Transportation Systems - Examine the feasibility of using augmented global positioning systems to support intelligent transportation systems.

Project Leader: John J. Lemmon (303) 497-3414
e-mail jlemmon@its.bldrdoc.gov

Federal Railroad Administration

Telecommunications Study - Review and comment on the ability of a new railroad telecommunications system to provide safety features desired by the Federal Railroad Administration.

Project Leader: Eldon J. Haakinson (303) 497-5304
e-mail eldon@its.bldrdoc.gov

General Electric

Emission Measurements of an RF-driven Lighting Device - Measure radio emissions of a newly developed lighting device. Characterize the RF emissions produced by the device; these data will be used by the Federal Communications Commission to introduce such devices into the commercial market.

Project Leader: Frank H. Sanders (303) 497-5727
e-mail fsanders@its.bldrdoc.gov

Hewlett-Packard Company

Local Multipoint Distribution Services Signal Coverage - Develop signal coverage plots of the 28- to 30-GHz local multipoint distribution service radio channel in Fremont, California.

Project Leader: Robert O. DeBolt (303) 497-5324
e-mail rdebolt@its.bldrdoc.gov

Measurements and Model Development for Local Multipoint Distribution Services - Provide knowledge on radio propagation in the 28- to 30-GHz band through measuring the local multipoint distribution service propagation channel within existing cellular transmitter sites. Develop channel models to be used for system simulation.

Project Leader: Peter P. Papazian (303) 497-5369
e-mail ppapazian@its.bldrdoc.gov

Integrator Corporation

Wireless Signal Coverage for Rural Communities - Use a terrain database with the personal communications services model to produce signal coverage patterns for three rural communities. Develop a model for the orthogonal frequency division multiplexing radio link that will facilitate analysis of the radio link.

Project Leader: Robert O. DeBolt (303) 497-5324
e-mail rdebolt@its.bldrdoc.gov

Miscellaneous Federal and Non-Federal Agencies

Telecommunications Analysis Services - Make available to other Government agencies and to the public, through user-friendly computer programs, a large menu of engineering models, scientific and informative databases, and other useful communication tools.

Project Leader: Robert O. DeBolt (303) 497-5324
e-mail rdebolt@its.bldrdoc.gov

National Communications System

Advanced Audio Quality Testing - Test and verify advanced audio quality measurement algorithms. Develop techniques to integrate existing video quality measurement algorithms with newly developed algorithms. Prepare results for the *Multimedia Performance Handbook*.

Project Leader: Stephen D. Voran (303) 497-3839
e-mail sv@its.bldrdoc.gov

American National Standard Institute

Vocabulary Development - Provide expert technical support in the revision of the ANSDIT, *American National Standards Dictionary for Information Technology*, and in participation in the U.S.-member body of American National Standard Institute to develop U.S. technical contributions to ISO/IEC-2382, Information Technology—Vocabulary, within ISO/IEC JTC 1 /SC 1.

Project Leader: Evelyn M. Gray (303) 497-3107
e-mail evie@its.bldrdoc.gov

Broadband Digital Telecommunications - Test and verify broadband multimedia quality measurements. Contribute results to national and international standards organizations.

Project Leader: Coleen T. Jones (303) 497-3764
e-mail cjones@its.bldrdoc.gov

Compact Disk for Interoperability Testing of HF Automatic Link Establishment Radios - Develop an audio CD that will provide a precise duplication of the HF radio automatic link establishment (ALE) tones that represent standardized calls used for communications between ALE-equipped HF radios.

Project Leader: James A. Hoffmeyer (303) 497-3140
e-mail jhoffmeyer@its.bldrdoc.gov

Development of the Multimedia Handbook -

Develop a multimedia handbook in conjunction with the Multimedia Performance Measurements Subcommittee of the Federal Telecommunications Standards Committee. Present technical contributions to standards fora.

Project Leader: Arthur A. Webster (303) 497-3567
e-mail webster@its.bldrdoc.gov

HF Modem Performance and Interoperability Testing - Conduct performance and interoperability testing on HF modems to enhance the ITS HF test bed.

Project Leader: Timothy J. Riley (303) 497-5735
e-mail triley@its.bldrdoc.gov

HF and Wireless Standards Development -

Provide technical support for evaluating and extending current telecommunications technology with respect to requirements for National Security Emergency Preparedness communications.

Project Leader: James A. Hoffmeyer (303) 497-3140
e-mail jhoffmeyer@its.blrdoc.gov

Hypertext Version of Federal Standard 1037C -

Provide expert technical support in developing this revised standard and making it electronically available. This document provides Federal departments and agencies a comprehensive source of definitions of terms used in telecommunications and related fields.

Project Leader: Evelyn M. Gray (303) 497-3107
e-mail evie@its.blrdoc.gov

Integrated Voice/Video/Data Performance

Measurement - Provide expert technical support for integrated voice/video/data measurement and standardization.

Project Leader: David J. Atkinson (303) 497-5281
e-mail dj@its.blrdoc.gov

Interoperability and Performance Assessment of Multimedia Information Systems -

Support the development of an interoperability and performance reference model for multimedia information systems (MMIS); track the development of MMIS standards and products, nationally and internationally.

Project Leader: William R. Hughes (303) 497-3728
e-mail whughes@its.blrdoc.gov

Interoperability Standards for Land Mobile

Radio - Assist in the development of interoperability standards for the next generation of digital land mobile radios, particularly in the area of security. This information will be used for radios and standards related to public safety applications.

Project Leader: William J. Pomper (303) 497-3730
e-mail wpomper@its.blrdoc.gov

Modeling, Simulation, and Testing of Asynchronous Transfer Mode over Wireless Telecommunications -

Assess proposed asynchronous transfer mode service over current and future wireless telecommunication technologies.

Project Leader: Timothy J. Riley (303) 497-5735
e-mail triley@its.blrdoc.gov

National Security Emergency Preparedness

Communications via Satellite - Determine qualitative and quantitative performance of satellite com-

munications used in tests of National Security Emergency Preparedness situations.

Project Leader: William A. Kissick (303) 497-7410
e-mail billk@its.blrdoc.gov

Operation and Maintenance Engineering Services -

Provide technical support to NCS on performance and interoperation of Government telecommunication assets for National Security Emergency Preparedness purposes.

Project Leaders: James A. Hoffmeyer (303) 497-3140 and A. Glenn Hanson (303) 497-5449
e-mail jhoffmeyer@its.blrdoc.gov and ghanson@its.blrdoc.gov

Protocol Testing for the HF Radio Network -

Develop an HF radio automatic link establishment network protocol simulator capability into the existing suite of test equipment.

Project Leader: Larry M. Brewster (303) 497-5953
e-mail lbrewster@its.blrdoc.gov

Research and Development Engineering Services -

Test the performance of HF radio modem products that implement packet HF protocols. Provide technical support to the research and development aspects of performance and interoperation of Government telecommunication assets for National Security Emergency Preparedness purposes.

Project Leaders: James A. Hoffmeyer (303) 497-3140 and A. Glenn Hanson (303) 497-5953
e-mail jhoffmeyer@its.blrdoc.gov and ghanson@its.blrdoc.gov

Testing and Evaluation Related to HF Standards Development -

Assist in developing Federal standards for telecommunications.

Project Leader: James A. Hoffmeyer (303) 497-3140
e-mail jhoffmeyer@its.blrdoc.gov

Wideband HF Channel Simulator for the Extended Interoperability Test Facility -

Obtain and integrate an upgraded, portable wideband HF channel simulator capability into existing equipment.

Project Leader: James A. Hoffmeyer (303) 497-3140
e-mail jhoffmeyer@its.blrdoc.gov

Wideband HF Simulator Testing to Support Standards Development -

Validate both the narrowband and wideband channel simulators using procedures specified by the NATO HF Communications System Group.

Project Leader: Christopher J. Behm (303) 497-3640
e-mail cbehm@its.blrdoc.gov

National Institute of Standards and Technology

Communication Standards for the Office of Law Enforcement Standards - Provide engineering support, scientific analysis, technical liaison, and test design and implementation in the development and validation of criminal justice communications standards.

Project leader: Val J. Pietrasiewicz (303) 497-5132
e-mail vpietrasiewicz@its.bldrdoc.gov

National Oceanic and Atmospheric Administration

NOAA Weather Satellite System Analysis- Provide analysis of VHF satellite-to-ground link propagation channels and environments that introduce attenuation, noise, and possibly multipath and fading. Characterize attenuation, link budget, and noise, with multipath and fading cases reflected in the attenuation, link budget, and bit error ratios.

Project Leader: Roger A. Dalke (303) 497-3109
e-mail rdalke@its.bldrdoc.gov

NTIA

Audio Quality Standards Development - Develop perception-based objective audio quality assessment techniques and standards contributions in support of advanced audio-coding and integrated services digital network standards within T1 and the International Telecommunication Union-Telecommunication Standardization Sector.

Project Leader: Stephen D. Voran (303) 497-3839
e-mail sv@its.bldrdoc.gov

Broadband Networks - Build the infrastructure necessary for ITS to lead in the development of a broadband research community by expanding and enhancing the Institute's capabilities for broadband networks performance measurement.

Project Leader: William R. Hughes (303) 497-3728
e-mail whughes@its.bldrdoc.gov

Broadband Radio Research - Support the development of broadband radio technologies and applications, especially high-data-rate, digital communications. Measure and model millimeter-wave propagation. Measure and model broadband indoor propagation and support the development of wireless local area network standards.

Project Leader: Peter B. Papazian (303) 497-5369
e-mail ppapazian@its.bldrdoc.gov

Broadband Wireless Standards - Provide leadership and technical contributions to national and international wireless standards development that enhances domestic competitiveness, improves foreign trade opportunities, and facilitates more efficient use of the radio spectrum. Actively support the International Telecommunication Union-Radiocommunication Sector, the Joint Technical Committee for Personal Communications Services Air-Interface Standards, and the IEEE 802.11 Wireless Local Area Networks Standards Committee.

Project Leader: Eldon J. Haakinson (303) 497-5304
e-mail eldon@its.bldrdoc.gov

Broadcasting Studies - Provide engineering support to the Executive Branch to select the best alternatives for efficient use of the broadcasting spectrum. Analyze and develop alternatives for the National Television System Committee and high-definition television/advanced television spectrum sharing.

Project Leader: Eldon J. Haakinson (303) 497-5304
e-mail eldon@its.bldrdoc.gov

Digital Networks Performance - Maintain, develop, and enhance digital network performance measurement software and perform integrated multimedia performance measurement experiments. Develop performance-related content and new functionality for a World Wide Web version of the NTIA *Multimedia Performance Handbook*.

Project Leader: William R. Hughes (303) 497-3728
e-mail whughes@its.bldrdoc.gov

International Standards - Provide leadership to T1 and U.S. International Telecommunication Union-Telecommunication Standardization Sector (ITU-T) committees and international work groups. Prepare technical contributions to advance ITU-T standards development and draft recommendations on integrated services digital networks and associated voice, data, and video communication services.

Project Leader: Neal B. Seitz (303) 497-3106
e-mail neal@its.bldrdoc.gov

Personal Communications Services Networks - Implement a wireless network modeling, simulation, and testing facility for personal communications services (PCS) system-specific noise and interference models tailored for implementation in a real-time hardware channel simulator, and PCS network-level simulations that use statistical data from the noise and interference model outputs.

Project Leader: James A. Hoffmeyer (303) 497-3140
e-mail jhoffmeyer@its.bldrdoc.gov

Personal Communications Services Radio

Systems - Provide support for the development of personal communications services radio technology through measurements, modeling, and simulation of the radio channel; analyze spectrum issues including spectrum sharing, interference, and access methods; and provide technical support for national and international standards development.

Project Leader: Jeffrey A. Wepman (410) 415-5541
e-mail jwepman@its.blrdoc.gov

Radio Spectrum Measurement System

Engineering Enhancements - Support Federal Government spectrum management needs through development of new capabilities for the radio spectrum measurement system (RSMS). Develop new techniques, algorithms, and hardware for the RSMS.

Project Leader: Bradley J. Ramsey (303) 497-3165
e-mail bramsey@its.blrdoc.gov

Radio Spectrum Measurement System

Operations - Support Federal Government spectrum management needs through spectrum measurements. Such measurements quantify Government and non-Government spectrum occupancy, the emission characteristics of individual emitters, and the electromagnetic compatibility of systems that use radio spectrum.

Project Leader: Frank H. Sanders (303) 497-5727
e-mail fsanders@its.blrdoc.gov

Satellites and Integrated Services Digital

Networks - Identify needs and recommend solutions for interoperation of advanced satellite and broadband terrestrial networks that use asynchronous transfer mode (ATM) to provide broadband integrated services digital networks (B-ISDNs). Evaluate the application of perception-based metrics for multimedia systems and services applied to advanced satellite networks. Participate in standards organizations concerned with the use of ATM on satellite networks and the performance and interoperability of advanced satellite and terrestrial B-ISDNs.

Project Leader: Raymond D. Jennings (303) 497-3233
e-mail rjennings@its.blrdoc.gov

Spectrum Efficiency Studies - Develop the general principles for efficient use and management of the spectrum, and resolve specific issues related to spectrum efficiency.

Project Leader: Robert J. Matheson (303) 497-3293
e-mail matheson@its.blrdoc.gov

Spectrum Engineering Models - Develop and implement spectrum engineering models necessary to effectively manage the Government's use of the radio spectrum.

Project Leader: Robert J. Matheson (303) 497-3293
e-mail matheson@its.blrdoc.gov

Video Quality Standards - Develop video quality assessment techniques and standards contributions in support of digital transmissions systems relevant to the National Information Infrastructure within T1 and the International Telecommunication Union-Telecommunication Standardization Sector. Develop the required technology for assessing the performance of digital video transmission systems and transfer this technology to other Government agencies and end-users, national and international standards bodies, and the U.S. telecommunications industry.

Project Leader: Stephen Wolf (303) 497-3771
e-mail swolf@its.blrdoc.gov

Naval Research Laboratory

Electromagnetic Compatibility Study - Perform an electromagnetic compatibility analysis to determine the levels of RF radiation that will be coupled from a proposed earth station to an existing NRL earth station; compare those levels to the thresholds of interference for the NRL earth station.

Project Leader: Frank H. Sanders (303) 497-5727
e-mail fsanders@its.blrdoc.gov

Operational Support Office

Wideband HF Simulator Enhancements and Use for the Evaluation of Wideband HF Modems - Enhance the wideband HF simulator and use it to test a wideband HF modem. Develop a report detailing the results of the test.

Project Leader: Christopher Behm (303) 497-3640
e-mail cbehm@its.blrdoc.gov

Telesis Technologies Laboratory

Model Development and Consulting for Local Multipoint Distribution Services - Develop a simulation model for local multipoint distribution services operating at frequencies in the extremely high frequency band. Provide technical consulting at field trials in Palm Springs, California.

Project Leader: Roger A. Dalke (303) 497-3109
e-mail rdalke@its.blrdoc.gov

U.S. Army

HF Radio System Simulation - Evaluate predicted performance (including a variety of channel conditions, sources, modulations, and jamming) of proposed Army HF electronic warfare systems using software simulation.

Project Leader: Edmund A. Quincy (303) 497-5472
e-mail equincy@its.bldrdoc.gov

Independent Evaluation of the Reserve Component Automated System - Establish and conduct a comprehensive evaluation program for the Reserve Component Automated System program. Independently evaluate testing methodology and results, and report on the findings.

Project Leader: Val J. Pietrasiewicz (303) 497-5132
e-mail vpietrasiewicz@its.bldrdoc.gov

Jammer Effectiveness Model Development -

Develop a Jammer Effectiveness Model using a Windows interface shell and ITM, GWAPA, and IONCAP propagation models.

Project Leader: Nicholas DeMinco (303) 497-3660
e-mail ndeminco@its.bldrdoc.gov

Technical Test of the Reserve Component

Automated System - Provide technical testing and system engineering consulting during the development and fielding phases of the Reserve Component Automated System (RCAS). The RCAS is an automated information system including computers, software, and networks connecting over 5000 sites to improve operational readiness of the Army National Guard and Army Reserves.

Project Leader: Richard E. Skerjanec (303) 497-3157
e-mail rskerjanec@its.bldrdoc.gov

Test Support for the Army High Frequency Electronic Warfare System - Support the test and evaluation of HF electronic warfare systems for the U.S. Army Signals Warfare Directorate.

Project Leader: Patricia J. Longstaff (303) 497-3568
e-mail plongstaff@its.bldrdoc.gov

U.S. Information Agency

HF Propagation Model Studies - Provide Voice of America (VOA), radio broadcaster for USIA, with a validation of broadcast service quality predictions using reception reports from VOA monitors. Provide modeling of advanced graphics displays to present VOA's propagation and monitoring results.

Project Leader: Gregory R. Hand (303) 497-3375
e-mail ghand@its.bldrdoc.gov

US West

Boulder Industry Test Bed Support - Serve as an independent observer during field trials of candidate personal communications services air-interface standards.

Project Leader: Ronald Ketchum (303) 497-7600
e-mail rketchum@its.bldrdoc.gov

University Corporation for Atmospheric Research

Consultation on the National Center for Atmospheric Research Wind Profiler - Consult, advise, and conduct research on the spaced antenna wind profiler systems.

Project Leader: Christopher L. Holloway (303) 497-6184
e-mail cholloway@its.bldrdoc.gov